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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,549	06/28/2001	Yong Jae Park	P 276556 HD-1030/US	5120
7590	02/19/2004		EXAMINER	
PILLSBURY WINTHROP LLP 1600 TYSONS BOULEVARD MCLEAN, VA 22102			MAI, SON LUU	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 02/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/892,549	PARK ET AL.	
	Examiner	Art Unit	
	Son L. Mai	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 June 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 June 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 06-28-01. It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b).

Specification

2. The disclosure is objected to because of the following informalities: A brief description of Figure 3 as set forth in 37 CFR 1.74, is omitted. On page 5, line 12, "date" should be --data--. And on page 6, line 29, "date" should read --data--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 1, it appears that "a controller" in line 10 refers to the same controller in line 7 and should be changed to --the controller--.

As for claim 3, "the first internal clock", "the third internal clock", "the DLL unit", "the main clock" lack antecedent bases in the claim. It appears that claim 3 is intended to depend upon claim 2, not claim 1.

Claims 2 and 3 are also rejected for their dependency on claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Higuchi et al. (Japanese Patent No. JP 11053296 A).

Regarding claim 1, the Higuchi et al. patent teaches a high speed interface type semiconductor memory device, comprising: a DRAM module unit (13 in figure 1) constructed and arranged to generate a strobe clock signal (through pin 22d on line 23a) for synchronizing a data signal during a read operation in a DRAM (14d) farthest from a controller (12) among a plurality of DRAMs (14a-14d), provide the strobe clock signal to the other DRAMs, and transmit data (on data bus 25) to the controller during the read operation; and [the] controller constructed and arranged to transmit a clock signal (on clock signal line 21a) and data signals (on data bus 25) synchronized with the clock signal to the plurality of DRAMs, and receive data signals from the DRAMs.

Allowable Subject Matter

7. Claims 2 and 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach the further limitations of claim 2 which calls

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for each DRAM comprises: a first buffer; a second buffer; a DLL unit; a first multiplexer unit; a second multiplexer unit; a read first-in first-out unit constructed and arranged to synchronize and output a 4 bit read data according to the output signals from the first and second multiplexer units; a fourth buffer; a fifth buffer; and a write first-in first-out unit constructed and arranged to receive the output signal from the fifth buffer, synchronize the output signal according to a first internal clock and clock bar signals and a second internal clock and clock bar signals, and output a 4 bit write data.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watanabe (U.S. Patent 5,963,502), Jeon (U.S. Patent 6,141,265) and Kim (U.S. Patent 6,359,481) disclose clock-synchronous type semiconductor memory devices capable of outputting read clock signal for synchronizing read operations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son L. Mai whose telephone number is 571-272-1786. The examiner can normally be reached on 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



02-12-2004

Son L. Mai
Primary Examiner
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